



## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>JSONY-422PCT</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/JP2003/011572</b>	International filing date ( <i>day/month/year</i> ) <b>10 September 2003 (10.09.2003)</b>	Priority date ( <i>day/month/year</i> ) <b>18 September 2002 (18.09.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>H03G 3/10, H03F 1/32</b>		
Applicant <b>SONY CORPORATION</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (*sent to the applicant and to the International Bureau*) a total of \_\_\_\_\_ sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand <b>03 February 2004 (03.02.2004)</b>	Date of completion of this report <b>02 November 2004 (02.11.2004)</b>
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/011572

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

The international application as originally filed/furnished

the description:

pages \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_, as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_
- the claims, Nos. \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_
- the claims, Nos. \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/JP 03/11572

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1 - 6	YES
	Claims		NO
Inventive step (IS)	Claims	6	YES
	Claims	1 - 5	NO
Industrial applicability (IA)	Claims	1 - 6	YES
	Claims		NO

## 2. Citations and explanations

Document 1: JP 4-87406 A (NEC Corp.), 19 March 1992, entire text, fig. 1

Document 2: JP 11-234067 A (Kyocera Corp.), 27 August 1999, entire text, fig. I and fig. 2

Document 3: JP 2-308606 A (Hitachi, Ltd.), 21 December 1990, entire text, all drawings

Document 4: JP 2001-223549 A (Sony Corp.), 17 August 2001, entire text, fig. 1-11

Document 5: JP 48-90653 A (Alps Electric Co., Ltd.), 26 November 1973, entire text, all drawings

Document 6: Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 131684/1978 (Laid-open No. 51030/1980), (Yagi Antenna Kabushiki Kaisha), 03 April 1980, fig. 1(a)

Document 7: JP 53-60546 A (Hitachi, Ltd.), 31 May 1978, entire text, and fig. 2 and 3

Document 8: JP 6-334454 A (Hitachi, Ltd.), 02 December 1994, paragraphs [0007] to [0013] and fig. 1

Claims 1, 3 and 4

Documents 1 and 2 cited in the international search report disclose variable gain amplifiers configured from a plurality of dual-gate type FETs that comprise a first

FET, which has a gate to which input signals are applied, and a second FET, which has a source that is connected to the drain of said first FET, wherein the sources of the first FETs are interconnected and the drains of the second FETs are interconnected.

In addition, document 3 (refer to fig. 6) and document 4 cited in the international search report disclose configurations comprising a plurality of amplifiers, which are connected in parallel, and a plurality of voltage control means, which are connected to the amplifiers and are capable of applying separate control voltages thereto.

Consequently, the invention that is set forth in claims 1, 3 and 4 does not involve an inventive step in the light of documents 1 to 4.

#### Claim 2

Amplifiers that are configured from FETs, which have gates to which input signals are applied, and bipolar transistors, which have emitters that are connected to the drains of said FETs, are well known in the technical field in question, as can be seen from the disclosures of document 5 cited in the international search report.

Consequently, the invention that is set forth in claim 2 does not involve an inventive step in the light of documents 1 to 5.

#### Claim 5

Document 6 cited in the international search report discloses a cascade-type variable gain amplifier, which is provided with a return path that connects the signal input unit and the signal output unit.

Consequently, the invention that is set forth in claim 5 does not involve an inventive step in the light of documents 1 to 6.

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

International application No.  
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**Claim 6**

The invention that is set forth in claim 6 is not disclosed in any of the documents that are cited in the international search report, and is not obvious to a person skilled in the art.